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PILLSBURY MADISON & SUTRO
INTELLECTUAL PROPERTY GROUP
1100 NEW YORK AVENUE NW
NINTH FLOOR EAST TOWER
WASHINGTON, DC 200053918

EXAMINER

LEUNG, JENNIFER A

ART UNIT

PAPER NUMBER

1764

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10

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/191,702

Applicant(s)

O'HAM, JEFFREY K.

Examiner

Jennifer A. Leung

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 04 December 2002.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-3, 5-8, 10-12, 14, 15, 17-19 and 36-39 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-3, 5-8, 10-12, 14, 15, 17-19 and 36-39 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☒ The proposed drawing correction filed on 04 December 2002 is: a) ☒ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION

Response to Amendment

1. The Amendment submitted on December 4, 2002 has been received and carefully considered. The drawing and specification changes submitted on December 4, 2002 are acceptable. Claims 4, 9, 13, 16 and 20-35 have been cancelled. Claims 36-39 have been added. Claims 1-3, 5-8, 10-12, 14-15, 17-19 and 36-39 remain active.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 1-3 and 17-18 are rejected under 35 U.S.C. 102(b) as being anticipated by Ibrahim (DE 4229428).

With respect to claim 1, Ibrahim (FIG., Abstract) disclose an apparatus comprising: (i) a vessel (oven **10**) having an interior (chamber **12**); (ii) a manifold (exhaust gas removal system **28** communicating with **24**, **26**) positioned on top of said vessel; and (iii) a means **34** for heating said interior **12**.

With respect to claim 2, the exhaust gas removal system **28** inherently comprises a means for generating a vacuum (in order to enable removal of exhaust gas).

With respect to claims 3 and 17, Ibrahim (Abstract) discloses one removable tray **16**.

With respect to claim 18, the apparatus of Ibrahim is inherently permanently mounted (interpreted as not mobile).

Instant claims 1-3 and 17-18 structurally read on the apparatus of Ibrahim.

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3. Claims 1-3 and 17-18 are rejected under 35 U.S.C. 102(b) as being anticipated by McGill et al. (U.S. 4,951,583).

With respect to claim 1, McGill et al. (FIG. 1, 2) disclose an apparatus **12** comprising (i) a vessel **82** having an interior; (ii) a manifold (conduits **102**, **104** in communication with housing **80**) positioned on top of said vessel **82**; and (iii) a means for heating said interior (column 5, lines 47-50).

With respect to claim 2, McGill et al. further disclose a means for generating a vacuum connected to said manifold (column 6, lines 8-20).

With respect to claims 3 and 17, McGill et al. (FIG. 2) further disclose one or more removable trays; for example, two removable trays (containers **88**, **90**).

With respect to claim 18, the apparatus **12** is inherently permanently mounted (interpreted as not mobile; FIG. 2, 3).

Instant claims 1-3 and 17-18 read structurally on the apparatus of McGill et al.

4. Claims 1, 2, 12 and 18 are rejected under 35 U.S.C. 102(b) as being anticipated by Noland et al. (U.S. 5,072,674).

With respect to claim 1, Noland et al. (FIG. 1, 2) disclose an apparatus comprising: (i) a vessel **24** having an interior; (ii) a manifold **54** (in communication with exhaust lines **46**, **48**, **50**, **52**) positioned on top of said vessel **24**; and (iii) a means for heating said interior **28**, **30** or **33**, **34**, **36**, **38**, **40** "from burner".

With respect to claim 2, Noland et al. (FIG. 1) further disclose a means **58** for generating a vacuum connected to said manifold.

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With respect to claim 12, Noland et al. further disclose means 26, 72, 74 (FIG. 2) for mechanically agitating positioned in said interior and connected to said vessel 24.

With respect to claim 18, the apparatus is inherently permanently mounted (interpreted as not mobile; FIG. 1).

Instant claims 1, 2, 12 and 18 structurally read on the apparatus of Noland et al.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
 2. Ascertaining the differences between the prior art and the claims at issue.
 3. Resolving the level of ordinary skill in the pertinent art.
 4. Considering objective evidence present in the application indicating obviousness or nonobviousness.
5. Claims 14 is rejected under 35 U.S.C. 103(a) as being unpatentable over Noland et al. (U.S. 5,072,674).

Noland et al. are silent as to the manifold comprising a heat resistant gasket touching the vessel. However, Noland et al. disclose "means for sealing the soil from atmospheric air" and performing the process under "sealed condition" (column 2, lines 48-46). Therefore, it would have been obvious for one of ordinary skill in the art at the time the invention was made to provide a heat resistant gasket to the apparatus of Noland et al., depending on intended use and

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absent showing unexpected results, since the Examiner takes Official Notice that the use of heat resistant gaskets as sealing means for heating apparatus is conventionally known in the art.

6. Claim 15 is rejected under 35 U.S.C. 103(a) as being unpatentable over Noland et al. (U.S. 5,072,674) in view of Weyand et al. (U.S. 5,300,137).

Noland et al. further disclose an exhaust cleaner **60** capable of filtering dust may be provided for said manifold **54** (FIG. 1; column 7, lines 38-45). However, Noland et al. are silent as to specifically a 1 to 100 micron dry filter for the exhaust cleaner **60**. In any event, it would have been an obvious design choice for one of ordinary skill in the art at the time the invention was made to provide such an exhaust cleaner, on the basis of suitability for intended use and absent showing any unexpected results, since 1 to 100 micron dry filters are conventionally known dust removal apparatus in the art, as evidenced by Weyand et al. To illustrate conventionality, Weyand et al. teach a gas cleaning means **15, 17** connected to a manifold **10, 19, 54** wherein the means may comprise "activated carbon columns, hepafilters, scrubbers, or any other device capable of removing residual vapors and submicron particles [thus inherently capable of removing the larger, 1 to 100 micron sized particles] from the effluent gas stream," (column 11, lines 64-column 12, line 12; FIG. 2).

7. Claims 1-3, 5-6, 10-11, 14, 17-19, 36 and 39 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kant et al. (U.S. 5,656,494) in view of Horn (U.S. 5,635,394).

With respect to claim 1, Kant et al. (FIGs. 1, 6) disclose an apparatus comprising:

(i) a vessel (defined by trays **12**) having an interior; (ii) a vapor space defined by cap **26** with a gas outlet **48** and corresponding conduit for removal of gases, positioned on top of said vessel

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(column 4, lines 29-36); and (iii) a means for heating said interior ("parameters such as temperature... may be controlled..."; column 7, lines 39-57). However, Kant et al. is silent as to whether structure (ii) may comprise specifically a "manifold". Horn teaches a system of biofilters **30** wherein a plurality of biofilters (FIG. 1) may be connected via manifolds **50, 51**. It would have been obvious for one of ordinary skill in the art at the time the invention was made to provide a manifold to the structure (ii) in the apparatus of Kant et al. because a manifold would allow for the system to be readily expanded to handle more air passage and accommodate more [vessels]," as taught by Horn (column 6, lines 24-27).

With respect to claim 2, Kant et al. further disclose a means **106** for generating a vacuum, inherently connected to the manifold of the modified apparatus (FIG. 10; column 8, lines 53-57).

With respect to claims 3 and 17, Kant et al. further disclose between one or more (or four) removable trays (FIG. 1; column 3, lines 19-24).

With respect to claim 5, Kant et al. (FIG. 1, 2) further disclose said vessel has a bottom part **28** and peripheral side walls **32** extending therefrom, each of said peripheral sidewalls **32** being at least partly defined by said one or more removable trays **12**.

With respect to claim 6, Kant et al. (FIG. 2; column 5, lines 30-37) further disclose said one or more removable trays **12** comprise a bottom part **34** and peripheral sidewalls **32** extending therefrom, said bottom part **34** being structured so as to define orifices **38** in said bottom part, and said bottom part **34** being capable of supporting media.

With respect to claim 10, Kant et al. (column 5, lines 32-34) further disclose said trays **12** may comprise virtually any size, and therefore it would have been an obvious design choice for one of ordinary skill in the art at the time the invention was made to select an appropriate loading

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capacity of (i.e. at least about 2.5 cubic yards) for the tray in the modified apparatus of Kant et al., on the basis of suitability for intended use and absent showing any unexpected results thereof, since changes in size involve only ordinary skill in the art. *In re Rose*, 220 F.2d 459, 463, 105 USPQ 237, 240 (CCPA 1955).

With respect to claims 11 and 39, Kant et al. disclose said one or more removable trays 12 comprise flanges 20, which function as gripping points by which the trays 12 may be lifted by light equipment such as a fork-lift (column 5, lines 59-64). Although Kant et al. are silent as to specifically “pockets”, it would have been an obvious design choice for one of ordinary skill in the art at the time the invention was made to provide “pockets” for the gripping points in the modified apparatus of Kant et al., on the basis of suitability for intended use and absent showing unexpected results, since substitution of known equivalent structures involves only ordinary skill in the art. *In re Fout* 213 USPQ 532 (CCPA 1982); *In re Susi* 169 USPQ 423 (CCPA 1971); *In re Siebentritt* 152 USPQ 618 (CCPA 1967); *In re Ruff* 118 USPQ 343 (CCPA 1958).

With respect to claim 14, Kant et al. (FIG. 1) further disclose a gas tight seal may be achieved between cap 26 and tray 12 by means of an O-ring or gasket 16 (column 3, lines 33-36), therefore inherently sealing the manifold to the vessel in the modified apparatus. Although Kant et al. are silent as to specifically a “heat resistant” gasket, it would have been an obvious design choice for one of ordinary skill in the art at the time the invention was made to select a heat resistant gasket for the O-ring in the apparatus of Kant et al., on the basis of suitability for intended use and absent showing unexpected results, since substitution of known equivalent structures involves only ordinary skill in the art. *In re Fout* 213 USPQ 532 (CCPA 1982); *In re Susi* 169 USPQ 423 (CCPA 1971); *In re Siebentritt* 152 USPQ 618 (CCPA 1967); *In re Ruff* 118

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USPQ 343 (CCPA 1958). Furthermore, the Examiner takes Official Notice that heat resistant gaskets are conventionally known in the art as sealing means for achieving a gas tight seal in heating apparatus.

With respect to claims 18 and 36, Kant et al. (column 3, lines 24-27; 38-43) further disclose the apparatus may be permanently mounted (i.e. on-site) as well as mobile (i.e. readily transportable).

With respect to claim 19, Kant et al. (FIG. 1) further disclose the cap **26** with outlet **48** is not attached to said vessel **12**, and therefore inherently the manifold of the modified apparatus is not attached to said vessel.

8. Claim 7 is rejected under 35 U.S.C. 103(a) as being unpatentable over Kant et al. (U.S. 5,656,494) in view of Horn (U.S. 5,635,394), as applied to claims 1-3 and 6 above, and further in view of Wellford, Jr. (U.S. 3,706,662).

Although Kant et al. are silent as to whether the bottom part **34** of tray **12** may comprise a screen, such that the orifices in the bottom part are formed by the screen, it would have been an obvious design choice for one of ordinary skill in the art at the time the invention was made to provide a screen for the bottom part in the modified apparatus of Kant, since the use of screens for the retaining of solid media is conventionally known in the art, as evidenced by Wellford, Jr. To illustrate, the apparatus of Wellford, Jr. (FIG. 1, 2) comprises a container **12** for holding waste material **20**, wherein the bottom of the container comprises a grate **44** (inherently a "screen") capable of supporting the material. Furthermore, it has been held that substitution of known equivalent structures involves only ordinary skill in the art. *In re Fout* 213 USPQ 532

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(CCPA 1982); *In re Susi* 169 USPQ 423 (CCPA 1971); *In re Siebentritt* 152 USPQ 618 (CCPA 1967); *In re Ruff* 118 USPQ 343 (CCPA 1958).

9. Claim 8 is rejected under 35 U.S.C. 103(a) as being unpatentable over Kant et al. (U.S. 5,656,494) in view of Horn (U.S. 5,635,394), as applied to claims 1-3 and 6 above, and further in view of Dean, Jr. et al. (U.S. 4,978,616).

Although Kant et al. are silent as to whether the bottom part 34 of tray 12 may comprises a slotted configuration, such that the orifices in the bottom part are formed by the slots, it would have been an obvious design choice for one of ordinary skill in the art at the time the invention was made to provide a slotted bottom for the bottom part in the modified apparatus of Kant et al., since the use of slotted tray bottoms is conventionally known in the art, as evidenced by Dean, Jr. et al. To illustrate, Dean, Jr. teaches the conventionality of using porous plates for supporting solid beds and provides a specific example of a slotted tray (column 1, lines 36-38; column 9, lines 6-10; FIG. 5). Furthermore, the substitution of known equivalent structures involves only ordinary skill in the art. *In re Fout* 213 USPQ 532 (CCPA 1982); *In re Susi* 169 USPQ 423 (CCPA 1971); *In re Siebentritt* 152 USPQ 618 (CCPA 1967); *In re Ruff* 118 USPQ 343 (CCPA 1958).

10. Claim 12 is rejected under 35 U.S.C. 103(a) as being unpatentable over Kant et al. (U.S. 5,656,494) in view of Horn (U.S. 5,635,394), as applied to claim 1 above, and further in view of Malone (U.S. 5,126,042).

The collective teachings of Kant et al. and Horn are silent as to the apparatus comprising a means for mechanically agitating the media within the vessel, wherein the means is positioned

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in said interior and connected to the vessel. Malone teaches a means **5** (FIG. 1) for mechanically agitating solid media within a vessel. It would have been obvious for one of ordinary skill in the art at the time the invention was made to provide a means for mechanically agitating to the modified apparatus of Kant et al., on the basis of suitability for intended use and absent showing unexpected results, since the agitation helps provide adequate suspended solids filtration as well as adequate media surface area for treatment of waste, as taught by Malone (column 2, line 51 to column 3, line 51).

11. Claim 15 is rejected under 35 U.S.C. 103(a) as being unpatentable over Kant et al. (U.S. 5,656,494) in view of Horn (U.S. 5,635,394), as applied to claim 1 above, and further in view of Weyand et al. (U.S. 5,300,137).

Kant et al. are silent as to the manifold comprising a filter. Horn teach that in certain situations, i.e. when air is directed from the bottom up, loose material in the top of the bed can easily be picked up in the air stream and blown through the system (column 3, lines 41-49). Therefore, it would have been obvious for one of ordinary skill in the art at the time the invention was made to provide a filter to the modified apparatus of Kant et al. in order to prevent passage of such loose material through the system. Although a 1 to 100 micron dry filter is not specified, it would have been an obvious design choice for one of ordinary skill in the art at the time the invention was made to provide such filter, on the basis of suitability for intended use and absent showing unexpected results, since such filters are known in the art of filtration. To illustrate conventionality, Weyand et al. teach a gas cleaning means **15, 17** connected to a manifold **10, 19, 54** wherein the means may comprise "activated carbon columns, hepafilters, scrubbers, or any other device capable of removing residual vapors and submicron particles [thus

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inherently capable of removing the larger, 1 to 100 micron sized particles] from the effluent gas stream," (column 11, lines 64-column 12, line 12; FIG. 2).

12. Claim 37 is rejected under 35 U.S.C. 103(a) as being unpatentable over Kant et al. (U.S. 5,656,494) in view of Horn (U.S. 5,635,394), as applied to claims 1-3 above, and further in view of Pare et al. (U.S. 5,389,248).

Kant et al. disclose heating means ("parameters such as temperature... may be controlled...", column 7, lines 39-57) but are silent as to whether the heating means may be positioned in a manner to allow heat to enter said vessel at a position below the trays. In any event, it would have been an obvious design choice for one of ordinary skill in the art at the time the invention was made select the placement of the heating means as such, depending on the intended use of the apparatus and absent showing unexpected results. *In re Kuhle* 188 USPQ 7 (CCPA 1975). Such placement of the heating means is known in the art, as evidenced by Pare et al., who teach a bioreactor unit comprising a plurality of trays **60, 62, 64**, wherein a heating means **240, 242, 208** (FIG. 4) is positioned such that heat enters the vessel at a position below the trays.

13. Claim 38 is rejected under 35 U.S.C. 103(a) as being unpatentable over Kant et al. (U.S. 5,656,494) in view of Horn (U.S. 5,635,394), as applied to claim 1 above, and further in view of Almeda, Jr. (U.S. 4,284,000).

Kant et al. (column 5, lines 59-64) disclose a means such as a fork-lift for lifting the trays via flanges **20** (inherently from below) but is silent as to specifically the means comprising a hydraulic cylinder. In any event, it would have been obvious for one of ordinary skill in the art at

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the time the invention was made to provide a hydraulic cylinder in substitution of the fork-lift for lifting the manifold in the apparatus of Kant et al. because the use of hydraulic cylinders for as a means for lifting objects is conventionally known in the art, as evidenced by Almeda, Jr. (hydraulic means 28). Furthermore, the fork-lift and hydraulic cylinder provide substantially the same function of lifting, and it has been held that the substitution of known equivalent structures involves only ordinary skill in the art. *In re Fout* 213 USPQ 532 (CCPA 1982); *In re Susi* 169 USPQ 423 (CCPA 1971); *In re Siebentritt* 152 USPQ 618 (CCPA 1967); *In re Ruff* 118 USPQ 343 (CCPA 1958).

Response to Arguments

14. Applicant's arguments with respect to claims 1-3, 5-8, 10-12, 14-15, 17-19 and 36-39 have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jennifer A. Leung whose telephone number is 703-305-4951. The examiner can normally be reached on 8:30 am - 5:30 pm M-F, every other Friday off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Glenn A. Caldarola can be reached on 703-308-6824. The fax phone numbers for the organization where this application or proceeding is assigned are 703-872-9310 for regular communications and 703-872-9311 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-0661.

Jennifer A. Leung
February 4, 2003

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HIEN TRAN
PRIMARY EXAMINER